

Original Research Article

To study the various risk factors predisposing to late onset septicemia

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Abstract:

Background & Method: The aim of this study is to study the various risk factors predisposing to late onset septicemia. A detailed maternal history was taken followed by examination of the neonate, the cases followed longitudinally regularly till discharge or death. The symptoms and sign closely observed & recorded on proforma specially designed for the purpose. The various symptoms that were inquired were fever, off feed, loose motion, convulsions, respiratory distress, abdominal distension, vomiting, keeping dull.

Result:

Conclusion: Peripheral intravenous cannula, IV fluids, LBW, increased duration of stay are significant risk factors for late onset septicemia. LBW, pre-term, respiratory distress at birth, are significant conditions associated with late onset septicemia. Lethargy, Refusal of feed, hypothermia, gastric residua, pale, jaundice, and bleeding diathesis are the common presentation of septicemia.

Keywords: risk, predisposing & late onset septicemia.

Study Designed: Observational Study.

1. INTRODUCTION

Neonatal sepsis encompasses various systemic infections of the newborn, such as septicemia, meningitis, pneumonia, arthritis, osteomyelitis etc.[1]. Depending on the onset age of the disease, neonatal sepsis is divided into early neonatal sepsis or late onset sepsis[2]. Early neonatal sepsis (EOS) is mainly due to organisms acquired before and during delivery (or maternal fetal infection), whereas late onset sepsis (LOS) is due to organisms acquired after delivery from the environment (nosocomial or community sources). However, there is little consensus as to what age limits apply, with early onset ranging from 48 hours to 7 days after delivery [3].

Late onset infection, the nursery incurred septicemia occurs usually after 72 hours of life. In late onset infection, the organism first colonize the baby and only later invade to cause sepsis. Nosocomial septicemia was considered to be present if onset of infection was beyond 48 hours of life with positive culture of body fluids which are suppose to be sterile e.g. Blood, CSF, Urine. Neonate who had clinical features suggestive of septicemia appearing after 72 hours of birth but not yielding bacterial pathogen on culture of body fluids were defined as having nosocomial septicemia they had positive sepsis screen.

Late onset septicemia remains a significant of morbidity and mortality in neonates, more so in developing countries. This may be due to, delivery and postnatal follow up in an unclean environment and non-adherence to aseptic measures which increases the chance of

contamination with infective organisms[4]. An early diagnosis and appropriate antibiotic therapy leads to better survival rates in septicaemia[5].

2. MATERIAL & METHOD

The present study is conducted at ESIC, Indore Hospital, Indore, M.P. from July 2019 to June 2020 on 200 patients. A detailed maternal history was taken followed by examination of the neonate, the cases followed longitudinally regularly till discharge or death. The symptoms and sign closely observed & recorded on proforma specially designed for the purpose. The various symptoms that were inquired were fever, off feed, loose motion, convulsions, respiratory distress, abdominal distension, vomiting, keeping dull.

The various clinical signs for looked for were weight, gestational age, hypothermia, crying, activity, rooting, sucking, cyanosis, pallor, jaundice, and bleeding from any site.

Various risk factors predisposing to late onset sepsis were analysed in detail for each baby e.g. birth weight, resuscitation at birth, gestational age, duration of stay, number of days for which peripheral vascular cannula was placed etc.

Exclusion criteria

1. Babies with PROM >12 hours
2. Maternal fever
3. Foul smelling liquor
4. Onset of symptoms within 72 hours of life

A maternal history was taken followed by examination of the neonate. The cases followed longitudinally till discharge or death. (from Sep. 2011 to Oct. 2012) the symptoms and sign observed and recorded on case sheet as well as on proforma.

3. RESULT

Table No. 1: Showing the Distribution of Cases According to Gestational Age

S. No.	Age in Weeks	No. of Cases (200)	Percentage
1.	<32 weeks	46	23%
2.	32-34 weeks	100	50%
3.	34-37 weeks	50	25%
4.	>37 weeks	04	2%

The above table shows 73%% cases of >34 week gestation while 98% cases under 37 week gestation among pre-terms maximum cases were between 34-37 week of gestation.

Table No. 2: Showing the Distribution of Cases According to Neonatal Risk Factors

S. No.	Risk Factor	No. of Cases	Percentage
1.	LBW	180	90%
2.	Pre-term	154	77%
3.	RDS at birth	70	35%
4.	Resuscitation at birth	52	26%
5.	Hyperbilirubinemia	02	1%

Above table shows that low birth weight associated with 90% cases followed by pre-maturity, RDS at birth, resuscitation at birth in decreasing order of frequency.

Table No. 3: Clinical Features of Neonatal Septicemia

S. No.	Clinical Features	Percentage
1.	Lethargy	83%
2.	Refusal to feed	79%
3.	Hypothermia	66%
4.	Jaundice	63%
5.	Gastric residual	48%
6.	Mottling	39%
7.	Generalized pallor	37%
8.	Abdominal distension	38%
9.	Hyperthermia	27%
10.	Seizure episodes	26%
11.	Sclerema	19%
12.	Bleeding IV/GI/other	15%
13.	Apneic episode	19%
14.	Bulging fontanelle	05%

The main clinical features as shown in above table were lethargy 83%, refusal to feed 79% jaundice 63%, hypothermia 66%, mottling 39%, abdominal distension 38% while hyperthermia 27%, seizures 26%, bleeding & apneic episode 19%, bulging fontanelle were present only in 05% of the cases.

4. DISCUSSION

Gestational age not only affects weight of the baby but also predisposes babies to increased risk of sepsis. In the present study, 73% babies were pre-terms, while only 27% were term, these observations were supported by different authors[6]. 33.5 wk gestation with infected groups, and 36.6 wk in non-infected group, a lower gestational age increases risk of septicemia.

Pre-maturity is associated with increased risk of nosocomial sepsis due to decrease immunoglobulin and opsonophagocytosis. Mortality is also high in pre-terms as compared to term neonates[7]. In the present study, it is 69% in pre-terms this observation who reported 8 deaths out of 8 pre-terms with septicemia and one death out of three term babies[8].

Increased duration of use of IV cannula, umbilical catheter, ventilator, increase the risk of sepsis. In the present study intravenous cannula was placed for 1700 days in 100 patients, average of 17 days per patient[9]. In our study 100% babies were on IV fluids and prophylactic antibiotics. While peripheral vascular catheter as the highest risk factor for late onset septicemia, she found 90% cases of sepsis associated with peripheral vascular catheters.

5. CONCLUSION

Peripheral intravenous cannula, IV fluids, LBW, increased duration of stay are significant risk factors for late onset septicemia. LBW, pre-term, respiratory distress at birth, are significant conditions associated with late onset septicemia. Lethargy, Refusal of feed,

hypothermia, gastric residua, pale, jaundice, and bleeding diathesis are the common presentation of septicemia.

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